INTRODUCTION FOR VENDOR INFORMATION
WS AND WP CHEMISTRY STUDY SERIES
FEBRUARY 22, 2000

The following communication was provided by the Environmental Laboratory Accreditation Program (ELAP) in 2000 to vendors as an update to the December 22, 1999, guidelines for drinking water and wastewater performance evaluation study samples for the ELAP certification program. This communication is being posted on the ELAP website as instructed by management. Information that is needed by ELAP for administering future studies to evaluate laboratory performance have been shaded for posting.

ATE OF CALIFORNIA—HEALTH AND HUMAN SERVICES AGENCY
GRAY DAVIS, Governor
DEPARTMENT OF HEALTH SERVICES
2151 BERKELEY WAY
BERKELEY, CA 94704-1011
(510)540-21800

February 22, 2000

VENDOR INFORMATION UPDATE 1
ELAP PERFORMANCE EVALUATION STUDY PROGRAM
WATER SUPPLY (WS) AND WATER POLLUTION (WP) STUDY SERIES
CHEMISTRY

Update 1 is in reference to ELAP's regular certification program (i.e. non-NELAP) information package of December 22, 1999. The update includes clarifications and reminders to vendors.

REMINDER, all vendors must be in compliance with the U.S. Environmental Protection Agency's (USEPA) criteria document of December 1998 (and future updates) and NIST's handbook 150, NIST handbook 150-19, and NELAC standards.

2. In regards to those analytes without acceptance limit criteria from the USEPA, ELAP would prefer vendors to use data from Federal EPA and State laboratories for the establishment of an acceptance limit criteria. Since data from Federal EPA and State laboratories are not easily available, ELAP suggests the vendors use the tentative fixed ± percent acceptance criteria provided by ELAP in the December 22, 1999 instructions package until sufficient data becomes available to establish linear regression equations. Statistical data on participant performance for these analytes should be provided to Jane Jensen. If adjustments to the fixed percent acceptance criteria become necessary, they will be provided by the Department to the vendors. (Please include statistical plots to determine spread of participant data, if available.)

3 Mixing of Category 2 and 3 analytes with Category 1 analytes to form one sample without supporting data is not permitted with samples distributed to laboratories certified by California. Supporting data to determine whether the USEPA acceptance criteria for those analytes in Category 1 are effected by changing the sample composition must be generated independently from performance evaluation studies in which our laboratories participate. In other words, our certified laboratories are not to be used in such experiments.

4 With the termination of the classic USEPA WS/WP studies in 1998, uniformity in the administration of the performance evaluation studies ceased. However, through the use of the USEPA criteria document, variables in the evaluation of participant results could be minimized. In order to ensure that the analytes which appear in the USEPA criteria document are scored uniformly throughout the country, all vendors must use the USEPA established acceptance limit criteria for these analytes. Deviation from such acceptance limit criteria is not acceptable to ELAP.

5. The study start and completion dates have been entered as necessary components on the evaluation reports. A copy of the updated page 2 of 2 of the ELAP WS/WP Study Requirements is enclosed.

6. The overall method evaluations, which appeared in the evaluation profiles for drinking water and wastewater and the ELAP WS/WP Study Requirements (page 2), have been deleted. The method designation for each laboratory's reported result will still be necessary for ELAP review. Updated evaluation profiles are enclosed.

   The haloacetic acids, chlorite, chlorate, bromate, which appeared in the tables of detection limits and MCLs, have been deleted. Vendors are not expected to produce samples which vary from those already established by the USEPA. Bromide still appears on the list for the wastewater matrix. The corrected tables are enclosed.

8. The following analytes have been added to Category 1 for drinking water matrix, and an updated list is enclosed (page 1 and page 9 of 9):

   pH, residual free chlorine, turbidity, haloacetic acids

9. The following analytes have been added to Category 3 for drinking water matrix (methods 502.2 and 524.2) and to the table of detection limits and MCLs. Updated list (page 2 of 2) and tables are enclosed:

   trichlorotrifluoroethane (Freon 113) and trichlorofluoromethane (Freon 11).

10. The following analytes have been added to Category 3 for drinking water matrix (methods 507, 508, 508.1, and/or 525.2) and updated lists are enclosed (page 1 and page 2 of 2):

    chlorothalonil, dimethoate, molinate, thiobencarb.

11. The following analyte has been added to Category 3 for wastewater matrix, and an updated list is enclosed:

    oil & grease

12. The acceptance criteria for corrosivity has been added to the drinking water evaluation profile under the section, titled "Inorganic Chemicals & Physical Properties", and the updated section is enclosed.

13. In the table of detection limits and MCLs, several unit designations were omitted for drinking water matrix (TOC, Cl_2, perchlorate, aluminum, iron, and silver) and for wastewater matrix (chromium (VI), gold, and dioxin). The corrected tables are enclosed.

14. Also in the table of detection limits and MCLs, are DLR/MCL values for surfactants (MBAS), turbidity, 1,2,4-trichlorobenzene, hexachlorobenzene, hexachlorocyclopentadiene, diuron, and methomyl, and a correction to the Cl_2 MDL. The updated tables are enclosed.

15 Lists of approved methods for certification by ELAP are available on the Web, www.dhs.ca.gov/ps/ls/elap/elapindex.htm. They appear at the end of each laboratory information form, which lists the subgroups available for certification within each field-of-testing. (The fields-of-testing for drinking water are 2, 3, 4, and 5. The fields-of-testing for wastewater are 16, 17, 18, and 19.) Approved methods are also available in the Code of Federal Regulations, volume 40, parts 136 and 141.

16 ELAP expects to receive copies of evaluation reports (printout and electronic) for all performance evaluation studies in which the laboratory participated. If a laboratory wishes to participate in a study for quality control purposes and requests that ELAP not receive a copy of the report, such a request must be made prior to participation in the study. To avoid confusion, such laboratories have been recommended to order blind quality control samples which are not part of on-going performance evaluation studies.

Other pertinent updates are provided in the enclosed documents

The enclosed information for the California ELAP certification program is for the vendor only and not to be shared with others.

Please contact Jane Jensen at (510) 540-2800, if you have any questions Your cooperation is greatly appreciated.

Sincerely,

George C. Kulasingam, Ph.D.
Program Chief

(Signed by JJ)

Jane Jensen
Environmental Laboratory Accreditation Program

Enclosure

ELAP WS/WP Study Sample Concentrations
ELAP WS/WP Study Requirements (page 2 of 3, page 3 of 3)
Table of analyte detection limits/MCLs (drinking water & wastewater
Evaluation Profiles (drinking water & wastewater)
Category 1 Drinking Water Matrix (page 1, page 9 of 9)
Category 3 Drinking Water Matrix (page 1, page 2 of 2)
Category 3 Wastewater Matrix (page 1)

ELAP WS/WP STUDY SAMPLE CONCENTRATIONS
(Vendor Information Only)

Mixing of Category 2 and 3 analytes with Category 1 analytes to form one sample without supporting data is not permitted with samples distributed to laboratories certified by California. Supporting data to determine whether the USEPA acceptance criteria for those analytes in Category 1 are effected by changing the sample composition must be generated independently from performance evaluation studies in which our laboratories participate. In other words, our certified laboratories are not to be used in such experiments.

In regards to those analytes without acceptance limit criteria from the USEPA, ELAP would prefer vendors to use data from Federal EPA and State laboratories for the establishment of an acceptance limit criteria. Since data from Federal EPA and State laboratories are not easily available, ELAP suggests the vendors use the tentative fixed ± percent acceptance criteria provided by ELAP in the December 22, 1999 instructions package until sufficient data becomes available to establish linear regression equations. Statistical data on participant performance for these analytes should be provided to Jane Jensen. If adjustments to the fixed percent acceptance criteria become necessary, they will be provided by the Department to the vendors. (Please include statistical plots to determine spread of participant data, if available.)

Drinking Water Matrix Categories 2 & 3

In order for the study samples to be somewhat comparable to those produced under NIST accreditation requirements, NIST and USEPA requirements must be met. The analytical methods which meet NIST requirements may not be available for all analytes in categories 2 and 3. In such cases, the USEPA approved analytical method designated for the analyte shall be utilized to determine "true value".

[redacted] The random number generator shall be used to determine the concentration of the analyte for the study. [redacted]

In categories 2 and 3, all of the numerous organic analytes which appear for each method are not expected to be present in a sample. [redacted]

Wastewater Matrix Categories 2 & 3

In order for the study samples to be somewhat comparable to those produced under NIST accreditation requirements, NIST and USEPA requirements must be met. The analytical methods which meet NIST requirements may not be available for all analytes in categories 2 and 3. In such cases, the USEPA approved analytical method designated for the analyte shall be utilized to determine "true value".

(Rev Feb 2000)

[redacted] The random number generator shall be used to determine the concentration of the analyte for the study. [redacted]

[redacted]

[redacted]

In categories 2 and 3, all of the numerous organic analytes which appear for each method are not expected to be present in a sample. [redacted]

5. The evaluation report must have the following minimum information

   vendor's name, ID number, location, telephone, fax
   type of sample and matrix
   study date (beginning and end), study number
   laboratory (participant) name, city, state
   if mobile, license number, vehicle identification number
   laboratory EPA ID code
   analytes
   method of analyses
   reported results
   acceptance range
   true value
   evaluation of "acceptable" or "not acceptable"

6. The evaluation reports must be similar to past USEPA reports, i.e. the analytes, etc. should be on the same sheet, rather than on individual sheets.

7. The address and contact for mailing of evaluation report(s) is

   Fred Choske
   Environmental Laboratory Accreditation Program
   California State Department of Health Services
   2151 Berkeley Way, Annex 2
   Berkeley, CA 94704.

   Faxed copies of the evaluation report are not accepted.

8. Electronically transmitted evaluation report(s) in fixed width ASCII, Microsoft Access or Microsoft Excel format should be E-mailed to

   [redacted]@dhs.ca.gov

9. Both printed and electronically transmitted evaluation reports are required for California ELAP.

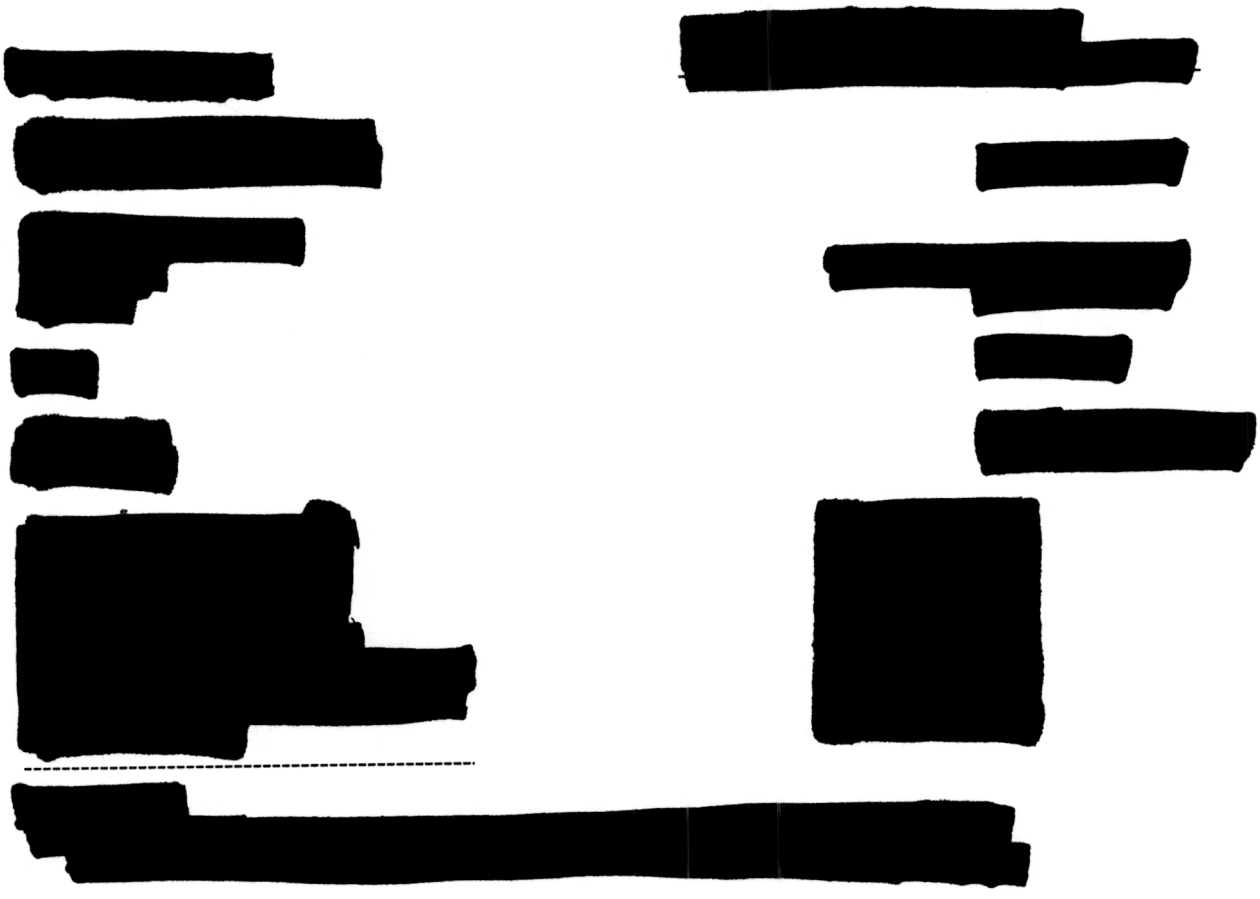
10. ELAP expects to receive copies of evaluation reports (printout and electronic) for all performance evaluation studies in which the laboratory participated. If a laboratory wishes to participate in a study for quality control purposes and requests that ELAP not receive a copy of the report, such a request must be made prior to participation in the study. To avoid confusion, such laboratories have been recommended to order blind quality control samples which are not part of on-going performance evaluation studies.

    Lists of approved methods for certification by ELAP are available on the Web, www.dhs.ca.gov/ps/ls/elap/elapindex.htm. They appear at the end of each laboratory information form, which lists the subgroups available for certification within each field-of-testing. (The fields-of-testing for drinking water are 2, 3, 4, and 5. The fields-of-testing for wastewater are 16, 17, 18, and 19.) Approved methods are also available in the Code of Federal Regulations, volume 40, parts 136 and 141.

12 With the termination of the classic USEPA WS/WP studies in 1998, uniformity in the administration of the performance evaluation studies ceased. However, through the use of the USEPA criteria document variables in the evaluation of participant results could be minimized. In order to ensure that the analytes which appear in the USEPA criteria document are scored uniformly throughout the country, all vendors must use the USEPA established acceptance limit criteria for these analytes. Deviation from such acceptance limit criteria are not acceptable to ELAP.

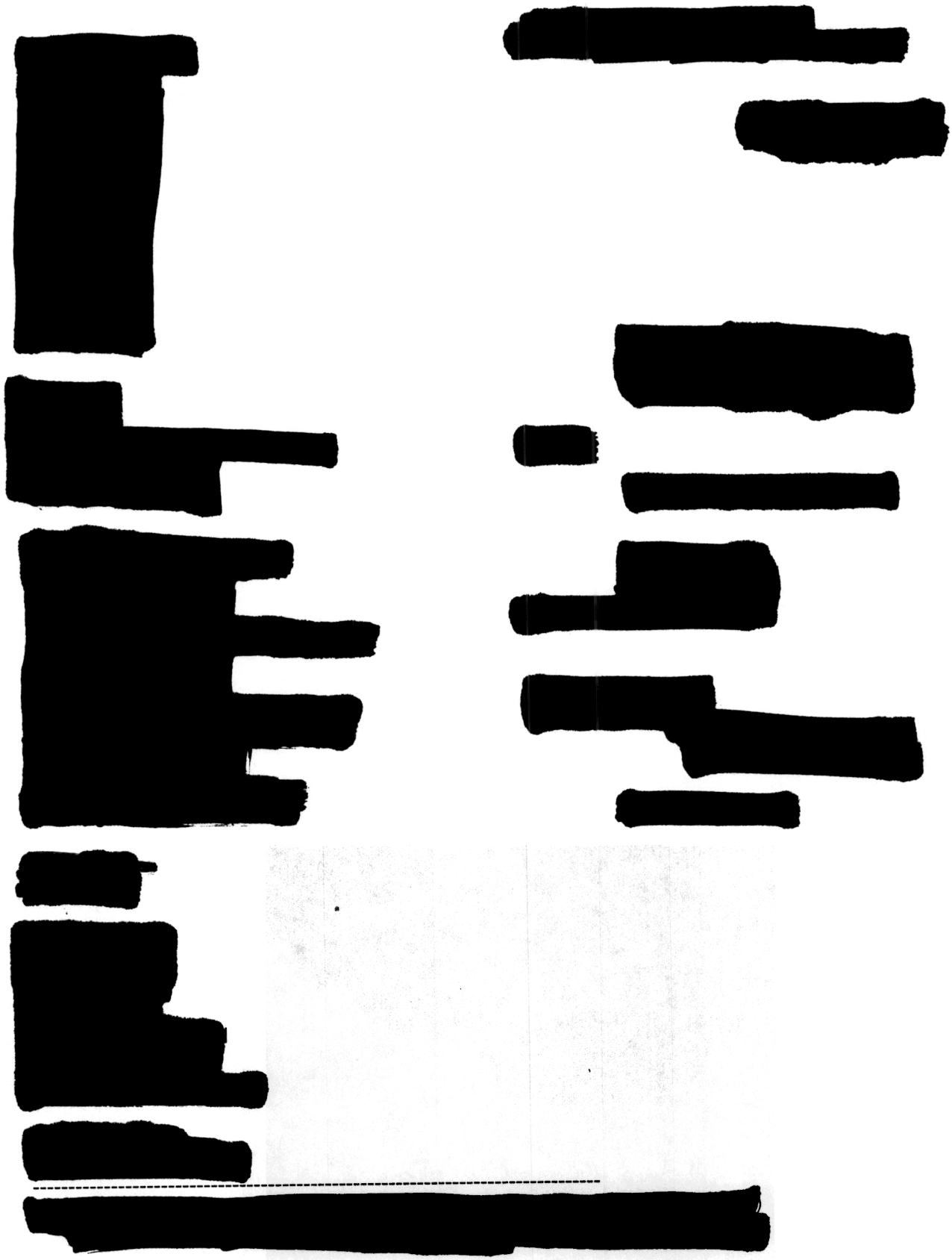
13. Contact for specifications and general questions from PT providers should be directed to

Jane Jensen at (510) 540-2800 or FAX (510) 849-5106



(Rev Feb 2000)

(Rev Feb 2000)



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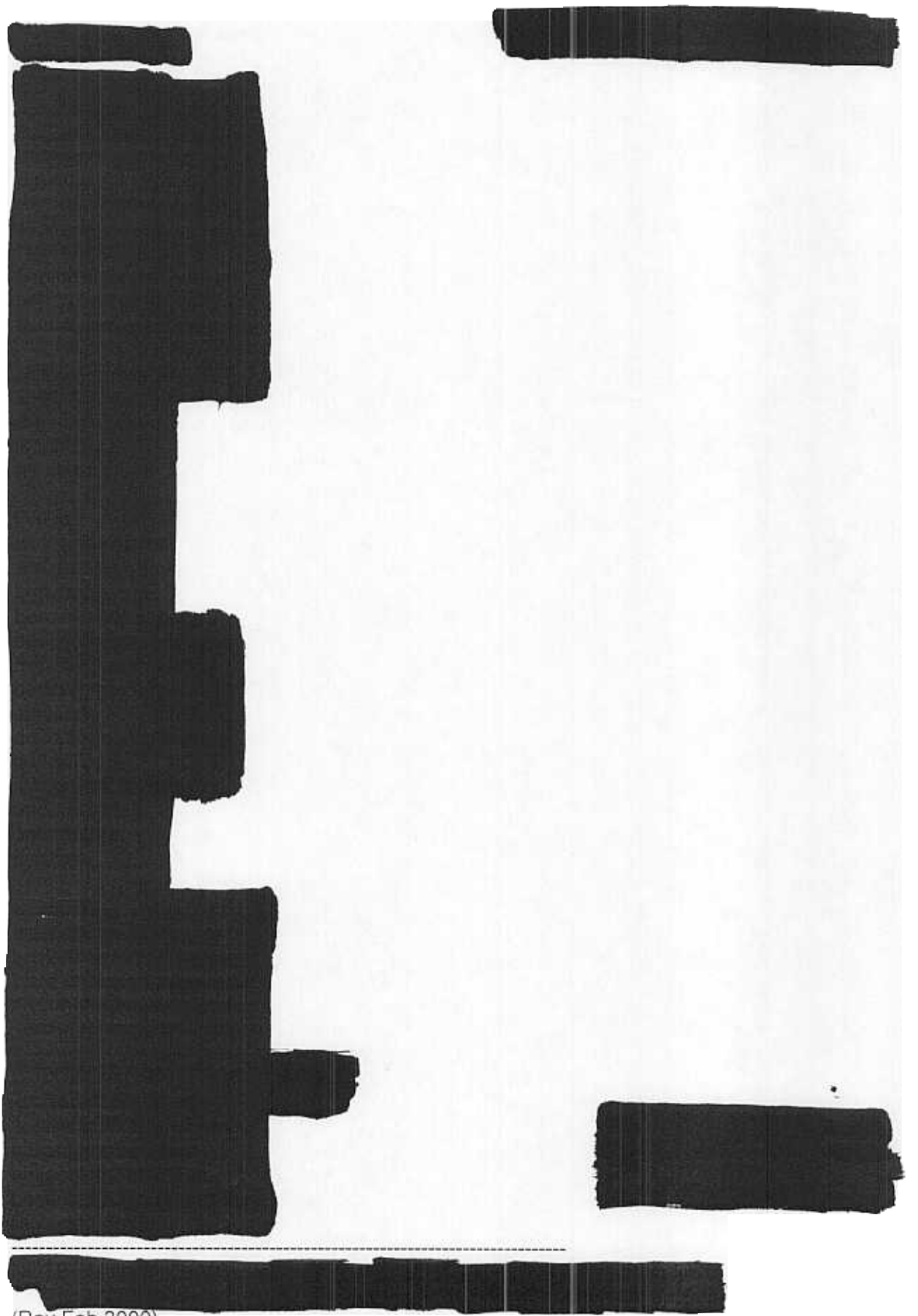
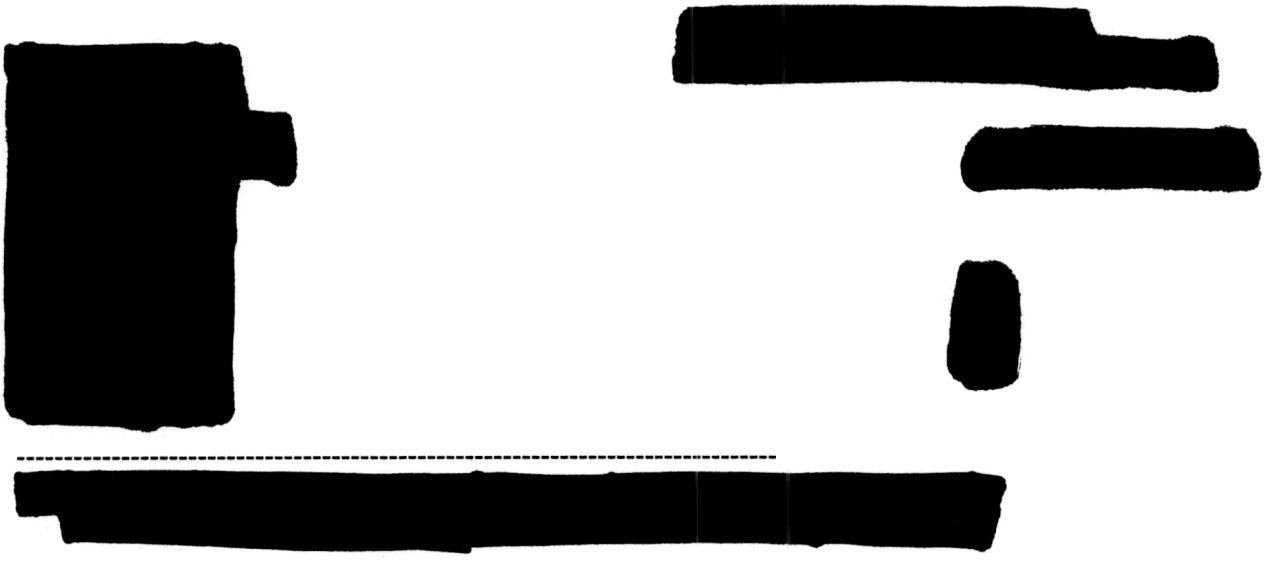


(Rev Feb 2000)



(Rev 2000)

Evaluation Profile (drinking water)

For inorganic and for organic fields-of-testing, each analyte in the performance evaluation study is evaluated individually and the evaluation report must have the method of analysis for the analyte.

2. Additional California analytes in categories 2 and 3 shall be evaluated individually. Since linear regression equations are not available for these analytes, the following percent acceptance ranges have been provided. The acceptance ranges are preliminary and subject to change.

Metals

± 30% for levels < 10 ppb
± 20% for levels ≥ 10 ppb

Inorganic Chemicals & Physical Properties

± 25% for levels < 10 ppm
± 15% for levels ≥ 10 ppm
± 35% for corrosivity

Adipates/Phthalates

± 70% for all levels

Carbamates

± 45% for all levels

Herbicides

± 50% for all levels

PAHs

± 50% for all levels

Rev Feb 2000)

Evaluation Profile (drinking water)

Paraquat

± 50% for all levels

PCBs in Water

Linear regression equations for WP studies at similar concentration range are applicable.

Pesticides

± 45% for all levels

VOCs

± 40% for levels < 10 µg/L
± 20% for levels ≥ 10 µg/L

(Rev Feb 2000)

Evaluation Profile (wastewater)

For inorganic and for organic fields-of-testing, each analyte in the performance evaluation study is evaluated individually and the evaluation report must have the method of analysis for the analyte.

3. Additional California analytes in categories 2 and 3 shall be evaluated individually. Since linear regression equations are not available for these analytes, the following percent acceptance ranges have been provided. The acceptance ranges are preliminary and subject to change.

Metals

± 20% for levels ≥ 10 ppb

Inorganic Chemicals & Physical Properties

± 15% for levels ≥ 10 ppm
± 120% for asbestos at all levels

The linear regression equation for WS studies at the similar concentration range is applicable for turbidity.

acrolein/acrylonitrile

± 20 % for all levels

Adipates/Phthalates

± 70% for all levels

Benzidines

for all levels

Carbamates

± 45% for all levels

Dioxin

± 30% for all levels

Evaluation Profile (wastewater)

Ethers/Chlorinated Hydrocarbons

± 30% for all levels

Herbicides

± 50% for all levels

Nitrosoamines/Nitroaromatics

± 30% for all levels

PAHs

± 50% for all levels

Pesticides

± 30% for all levels

Phenols

± 30% for all levels

VOCs

± 20% for levels ≥ 10 µg/L

(Rev Feb 2000)

DRINKING WATER MATRIX
CATEGORY 1
(January 2000)

Category 1 consists of analytes which will be provided by vendors who have been accredited to provide these analytes by the National Institute of Science and Technology (NIST). A vendors list for these analytes is attached.

Metals

antimony
arsenic
asbestos
barium
beryllium
cadmium
chromium
copper
lead
manganese
mercury
nickel
selenium
thallium
zinc

Inorganics & Physical Properties

alkalinity
bromate
bromide
chlorate
chlorine, residual free
chlorite
cyanide
fluoride
hardness
nitrate
nitrite
ortho-phosphate
pH
sodium
sulfate
TOC
total filterable residue
turbidity

EPA Method 551 (trihalomethanes only)

bromodichloromethane
bromoform
chlorodibromomethane
chloroform
total trihalomethanes

EPA Method 552.1 (dalapon only)

dalapon

EPA Method 552.2

bromochloroacetic acid
dibromoacetic acid
dichloroacetic acid
monobromoacetic acid
monochloroacetic acid
trichloroacetic acid

Method 6251B

bromochloroacetic acid
dibromoacetic acid
dichloroacetic acid
monobromoacetic acid
monochloroacetic acid
trichloroacetic acid

EPA Method 555

acifluorfen
2,4-D
2,4,5-TP
dinoseb
pentachlorophenol
pichloram

EPA Method 1613

dioxin (2,3,7,8-TCDD)

DRINKING WATER MATRIX
CATEGORY 3
(February 2000)

Category 3 consists of analytes which are available from a limited number of vendors, are additional analytes required by California, and are not applicable as categories 1 or 2.

Inorganic Chemicals & Physical Properties

chlorine (combined & total)
chlorine (total)
corrosivity (Langlier's index)
perchlorate
UV_{254}

EPA Method 502.2

ethyl-t-butylether (ETBE)
t-amylmethylether (TAME)
di-isopropylether (DIPE)
methyl-t-butylether(MTBE)
trichlorofluoromethane (Freon 11)
trichlorotrifluoroethane (Freon 113)
1-phenylpropane

EPA Method 507

diazinon
dimethoate
molinate (ordram)
prometryn
thiobencarb

EPA Method 508

chlorothalonil

EPA Method 508.1

chlorothalonil

EPA Method 515.1

bentazon

EPA Method 515.2

bentazon

EPA Method 524.2

ethyl-t-butylether (ETBE)
t-amylmethylether (TAME)
di-isopropylether (DIPE)
methyl-t-butylether(MTBE)
trichlorofluoromethane (Freon 11)
trichlorotrifluoroethane (Freon 113)
1-phenylpropane

EPA Method 525.2

chlorothalonil
dimethoate
molinate (ordram)
thiobencarb

EPA Method 531.1

carbaryl
3-hydroxycarbofuran

EPA Method 632

diuron

SM 6610

carbaryl
3-hydroxycarbofuran

ASTM Method D5475-93

molinate (ordram)

WASTEWATER MATRIX
CATEGORY 3
(January 2000)

Category 3 consists of analytes which are available from a limited number of vendors, are additional analytes required by California, and are not applicable as categories 1 or 2.

Metals

asbestos
palladium

Inorganics & Physical Properties

acidity
boron (colorimetric method)
bromide
nitrite
oil & grease by IR
settleable residue (settleable solids)
volatile residue
silica
sulfide (includes total and soluble)
tannin & lignin
turbidity
total recoverable PHCs by IR
total organic halides (TOX)

EPA Method 610

anthracene
benzo(a)pyrene

EPA Method 625

anthracene
benzo(a)pyrene

EPA Method 632

carbofuran
diuron
methomyl
oxamyl (vydate)
propham

EPA Method 1625

anthracene
benzo(a)pyrene